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Leprosy: The Pulse as a Possible Indicator
of the Progress of the Disease.
(A Preliminary Note.)

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LEPROSY: THE PULSE AS A POSSIBLE INDICATOR OF THE PROGRESS OF THE DISEASE. (A PRELIMINARY NOTE.)

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IN all febrile diseases and especially in tuberculosis, there is an evening rise in temperature, pulse rate and respiration. In leprosy this usual condition is reversed, so far as the pulse rate is concerned. In the morning the pulse rate is higher than at evening; often markedly so. That this condition is not due to the greater morning activity of the patient or to atmospheric changes has already been determined.

Great care has been taken in the making of these records, and as far as possible, surrounding conditions were alike, (morning and evening): An enforced rest of half an hour previous to taking the pulse and various precautions were observed and controls made to exclude errors. To exclude thermometer faults, all thermometers were compared and adjusted. The patients were at all times under the supervision of a nurse.

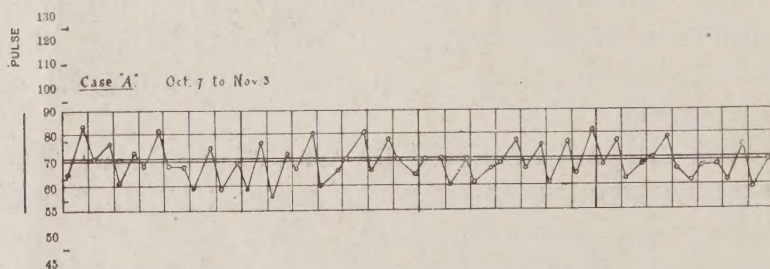
This clinical observation was carried out with sixteen patients, during the year 1913, but with greater care after July 1st. This heretofore undescribed phenomenon occurs in the majority of cases, and especially in those patients who are in an advanced, active stage of the disease. The same condition is present during febrile dis-

turbances. One patient shows only anesthetic lesions and whether the disease is actively progressive cannot be determined for some time. From all appearances, this patient has failed during the past year, but as she is one of only two anesthetic cases, it makes the matter rather difficult of solution. All the other patients are of the tubercular type.

Some changes have been observed in temperature and in respiration, and may be an indication of a similar although less marked change than the pulse; but just how important these changes are will not be dealt with in this preliminary report. As the title indicates, I have considered the change in morning pulse rate as an index to the condition of the patient, as a study and comparison of the charts will show.

The charts are for a period of one month showing morning and evening pulse rate in each ruled column. Seventy has been considered the normal pulse rate, consequently there is evident at once the common higher pulse rate in leprosy.

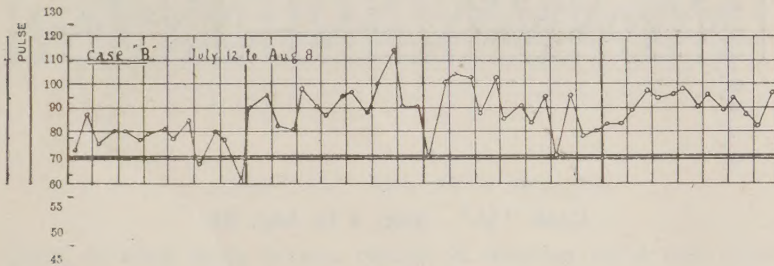
CASE "A". Tubercular type; early case; good physical condition; fairly free of lesions.



CASE "A." Oct. 7 to Nov. 3.

Chart showing fairly normal pulse for comparison with those showing morning rise.

CASE "B". Tubercular type; early case; good physical condition; fairly free of lesions.

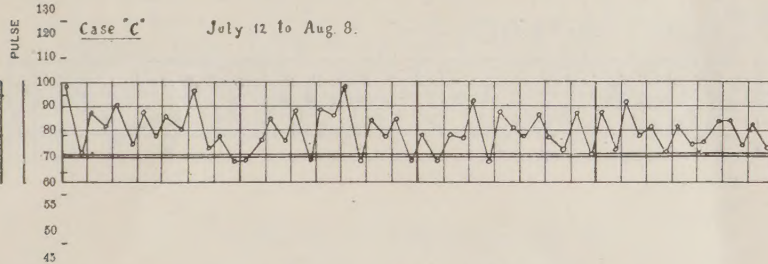


CASE "B." July 12 to Aug. 8.

Chart showing greatly varying pulse, with tendency to change.

NOTE: Patient is a highly nervous individual. Temperature normal. Respiration shows similar tendency as pulse.

CASE "C". Tubercular type; most advanced case; poor physical condition; various and numerous lesions.

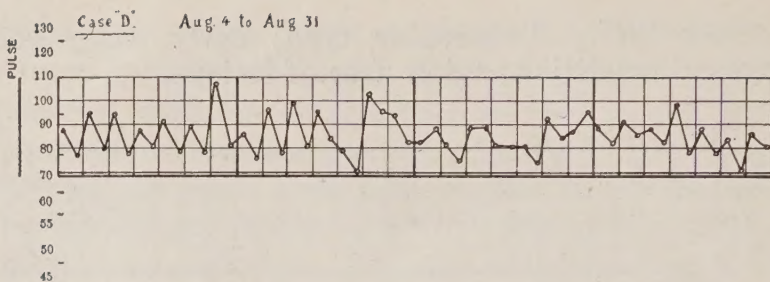


CASE "C." July 12 to Aug. 8.

Chart showing typical change in morning pulse rate.

NOTE: This patient is for the greater part of time in bed in the last stages of the disease. Temperature normal. Respiration shows marked tendency to similar change in morning rise of pulse. This patient shows same condition during whole period observed.

CASE "D". Tubercular type; advanced case; fairly good physical condition; various and numerous lesions.

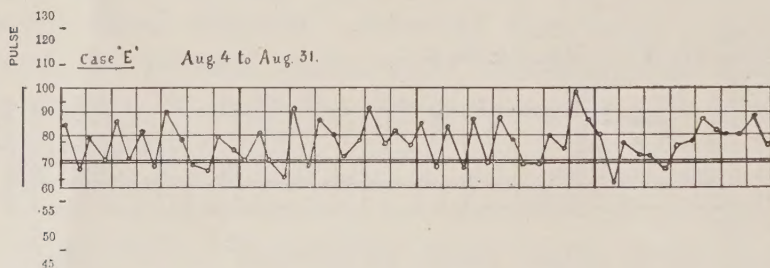


CASE "D." Aug. 4 to Aug. 31.

Chart showing most typical morning change in pulse rate.

NOTE: Patient reacts quickly to any marked physical effort. Normal temperature. Respiration shows slight similar change. During length of period under observation pulse change is regular for all months.

CASE "E". Tubercular type; advanced case; poor physical condition; various and numerous lesions.

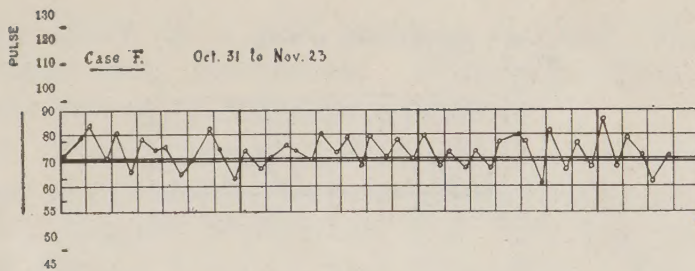


CASE "E." Aug. 4 to Aug. 31.

Chart showing very typical morning change in pulse rate.

NOTE: This patient is a highly nervous individual. Daily health condition varies considerably; temperature slightly above normal as a rule. Respiration shows marked similar change.

CASE "F". Mixed type; advanced case; poor physical condition; fairly numerous lesions.

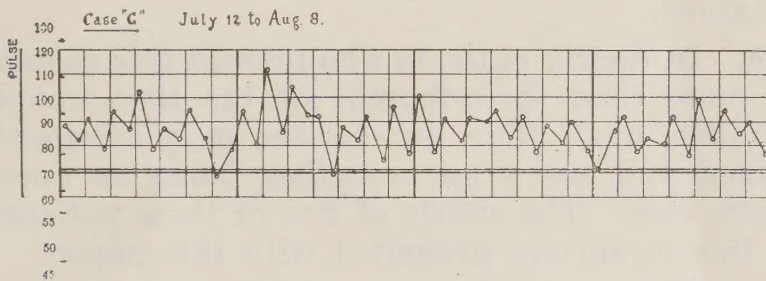


CASE "F." Oct. 31 to Nov. 23.

Chart showing fairly typical change in morning pulse rate although on normal lines.

NOTE: Patient also presents signs of lung tuberculosis. Daily health condition varies considerably. Temperature and respiration show apparently immaterial changes.

CASE "G". Anesthetic type; questionable activity; good physical condition; anesthetic lesions.

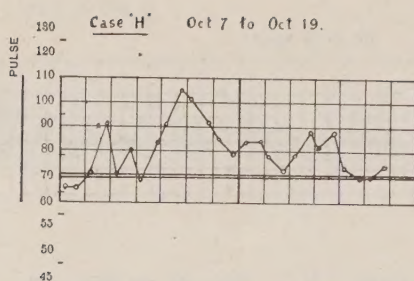


CASE "G." July 12 to Aug. 8.

Chart showing morning change in pulse rate but of "highly nervous" type.

NOTE: Patient easily excitable; chart shows "nervous" pulse; Temperature slightly above normal as a rule. Respiration shows some similar changes. A possible exception to tentative conclusions made regarding value of pulse readings.

CASE "H". Anesthetic type; stationary case; good physical condition; anesthetic lesions only.



CASE "H." Oct. 7 to Oct. 19.

Chart showing pulse during febrile disturbances with tendency towards change in morning rate.

NOTE: Patient here showed the usual febrile change with its accompanying symptoms as seen in leprosy; up to this time patient had been practically free from signs of disease excepting the original permanent lesions due to anesthetic leprosy.

In analyzing the result of this work and the frequency of the occurrence of this phenomenon for five months, the following facts have been obtained.

a. In the six patients who present this change in more than three-fourths of the time noted, one has died, four are in the most advanced stages, and one is an exception, being an anesthetic case. The charts of five of these patients of this group are presented with this paper.

b. Three cases demonstrate the change noted in more than one half of this period. In the second of these patients there is a marked increase agreeing with the general condition, during the last three months and in the third during the last two months. In the other case there is a marked decrease in the last two months agreeing most strikingly with the recovery of the patient from a prolonged and serious condition.

c. Three cases show this change during more than one fourth of the time, and in two of these

cases there is a still greater increase during October and November. Clinically these patients are in an advanced stage.

d. Four cases, all in the early or less serious stage of the disease gave negative results during July, August, September, and with one exception during October and November. The exception shows the tendency towards the change in higher morning pulse rate during one half of these two months.

This reversal of the usual febrile diurnal pulse may prove by further investigation to be of real prognostic importance. And, in the hope that other workers may verify this observation, this paper is now presented.



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